CLAIMS

1. A monitor protein capable of measuring processing of a protein, comprising one or more processing cleavage regions containing an amino acid residue or an amino acid sequence to be processed and one or more property variable regions which exhibit a change in luminescent and fluorescent energy property by the processing.

2. The monitor protein according to claim 1 wherein the property variable region comprises a luminescent protein and a fluorescent protein.

3. The monitor protein according to claim 1 wherein the monitor protein is a secretory protein.

4. The monitor protein according to claim 1 wherein a processing enzyme which cleaves the processing cleavage region is any one selected from the group consisting of PC1, PC2, furin, proteasome, cathepsin and thrombin.

5. The monitor protein according to claim 4 wherein the processing enzyme is PC1.

6. The monitor protein according to claim 1 wherein the processing cleavage region is located between the luminescent protein and the fluorescent protein which constitute the property variable region.

7. The monitor protein according to claim 1 wherein the luminescent protein is luciferase derived from any one selected from the group consisting of *Cypridina noctiluca*, *Acanthephya purpurea*, luminescent insects (firefly, headlight beetle, etc.), luminescent *Pyrocystis lunula*, luminescent earthworm, *Latia neritoides*, *Renilla*, and *Aequorea victoria* (aequorin).

8. The monitor protein according to claim 1 wherein the fluorescent protein is derived from any one selected from the group consisting of a green fluorescent protein (GFP), a yellow fluorescent protein (YFP), a blue fluorescent protein (BFP), a cyan fluorescent protein (CFP), DsRED and a red fluorescent protein (RFP).

9. The monitor protein according to claim 2 characterized in that the luminescent protein in the property variable region is a light-emitting enzyme from secretory *Cypridina noctiluca* and the fluorescent protein in the property variable region is a yellow fluorescent protein from a mutant derived from luminescent *Aequorea victoria*.

10. The monitor protein according to claim 1 wherein the processing cleavage region is composed of a sequence of 6 to 100 amino acids including a cleavage point cleaved by the processing enzyme.

11. The monitor protein according to claim 1 having any of the following amino acid sequences (a) and (b):
(a) the monitor protein represented by an amino acid sequence in SEQ ID NO:2; and
(b) the monitor protein having one or more amino acid substitutions, additions, deletions or insertions in the amino acid sequence in SEQ ID NO:2, wherein the energy transfer property between the luminescent protein and the fluorescent protein and the cleavage activity by the processing enzyme in the processing cleavage region are retained.

12. The monitor protein according to claim 1 wherein the processing cleavage region is SEQKQLQKRFGGFTGG.

13. DNA encoding the monitor protein according to any of claims 1 to 12.

14. The DNA according to claim 13, having any of the following DNA sequences (c) and (d):

(c) the DNA represented by a base sequence in SEQ ID NO:1; and

(d) the DNA which hybridizes with the DNA represented by the base sequence in SEQ ID NO:1 or DNA complementary thereto under a stringent condition, wherein the protein encoded by the DNA retains the energy transfer property between the luminescent protein and the fluorescent protein and the cleavage activity by the processing enzyme in the processing cleavage region.

15. An expression vector comprising the DNA according to claim 13.

16. A method for measuring a processing ability of a certain cell characterized by introducing any of the monitor protein according to any of claims 1 to 12, the DNA according to claim 13 to 14 and the expression vector according to claim 15 into the cell, and quantitatively evaluating a change in energy transfer property of the monitor protein.

17. The method according to claim 16 wherein said cell is a cell derived from human.

18. A method for measuring a processing ability of a subject protein comprising a step of reacting the subject protein with the monitor protein according to any of claims 1 to 12 and a step of measuring a change in energy transfer property of the monitor protein.

19. A method for screening a processing enzyme, comprising a step of reacting a subject protein with the monitor protein according to any of claims 1 to 12 and a step of selecting the subject protein which changes a property of the monitor protein by measuring a change in energy transfer property of the monitor

protein before and after the reaction with the subject protein.

20. A method for screening a compound which facilitates or inhibits processing, comprising a step of contacting a subject sample and a processing enzyme and the monitor protein according to any of claims 1 to 12 and a step of selecting a sample which facilitates or inhibits the property by measuring a change in energy transfer property of the monitor protein before and after the contact with the subject sample.

21. A method for screening a compound which facilitates or inhibits processing (enzyme activity), comprising a step of preparing a cell into which any of the monitor protein according to any of claims 1 to 12, the DNA according to claims 13 to 14 and the expression vector according to claim 15 is introduced, and a step of selecting a sample which facilitates or inhibits a property change by measuring the property change in energy transfer of the monitor protein expressed in the cell in the presence or absence of the subject sample.